

SIYTE for Flood Monitoring

Our mission is to harness AI to enable the rail industry to improve safety and train performance. Our SIYTE platform focuses on key challenges affecting performance - flooding & drainage, trespass & criminal activity and situational & environmental awareness of relocatable equipment buildings.



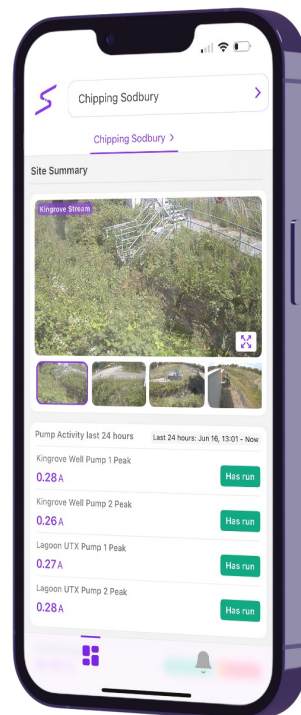
Flooding costs Network Rail approximately £60m per annum in Schedule 8 payments. In CP7, approximately £540m will be spent on improving drainage.



Physical environments such as drainage systems often have limited and/or siloed monitoring systems. This makes it difficult for engineers to view systems as a whole and to apply AI tools for analysing and predicting flooding impacts.



Disparate sensing systems create complexity, making it hard to access and interpret for Route Control and wider teams.



SIYTE for Flood & Drainage Remote Condition Monitoring

SIYTE aggregates existing camera and sensing systems alongside public data such as weather forecasts, while also supporting the integration of new IoT sensors and machine vision analysis. Camera imagery can be processed using advanced AI models to detect issues ranging from blocked trash screens to surface water accumulation.

An integrated workflow engine enables flexible and consistent alerting, combining multiple data sources into one unified framework. It also connects seamlessly with SIYTE AI, a conversational agent capable of delivering predictive insights and natural language analysis.

Engineers and operations teams benefit from data-driven decision support on drainage performance, including:

- **Remote-access** dashboards and alerts on desktop and mobile devices
- **Unified access** to information and alerts for Route Control
- **Predictive AI** analysis that enables users to query performance using natural language

George Barratt of Strategy & Planning for Network Rail Wales & Western on the SIYTE deployment at Chipping Sodbury between Swindon and Bristol: *"By viewing the site as a whole-system, we were able to understand how the different assets integrate. Together with other measures to improve asset performance, we avoided 7,000 minutes of delays last winter compared with similar events the previous year."*

Explore the case study on our website to see how we supported Wales & Western at Chipping Sodbury.



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